

# BURLINGTON PUBLIC WORKS

*FY2017 PROPOSED  
BUDGETS*

*Water*

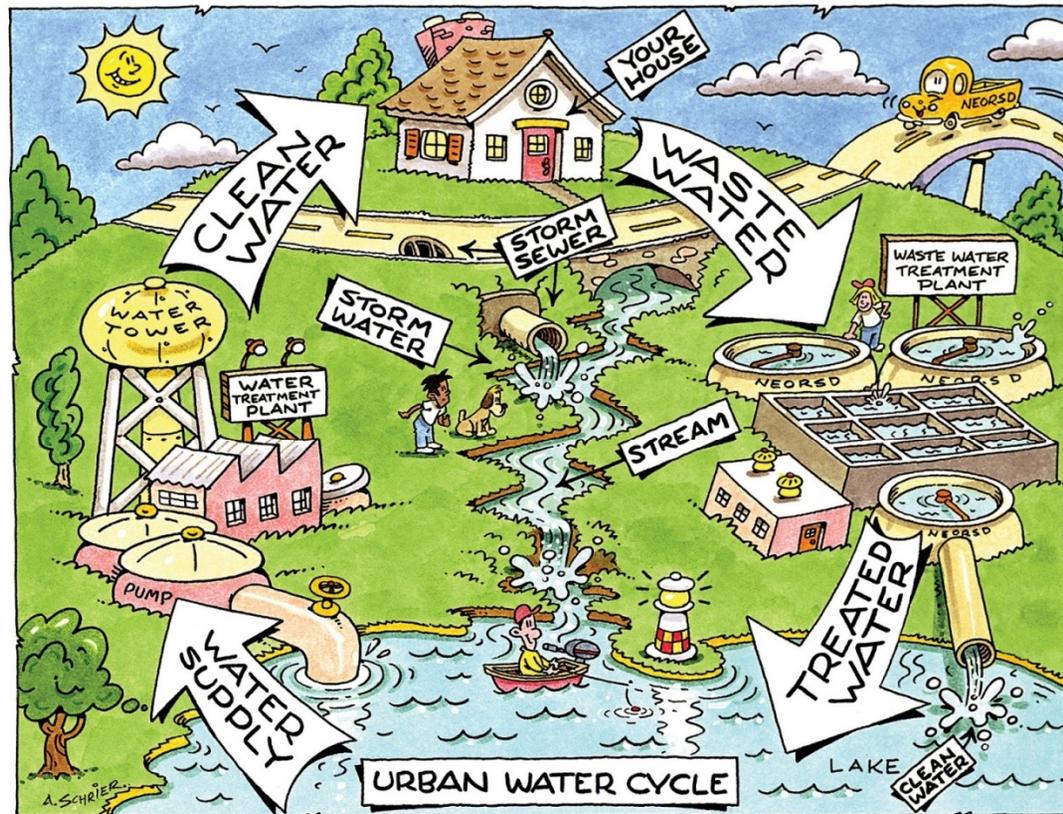
*Wastewater*

*Stormwater*



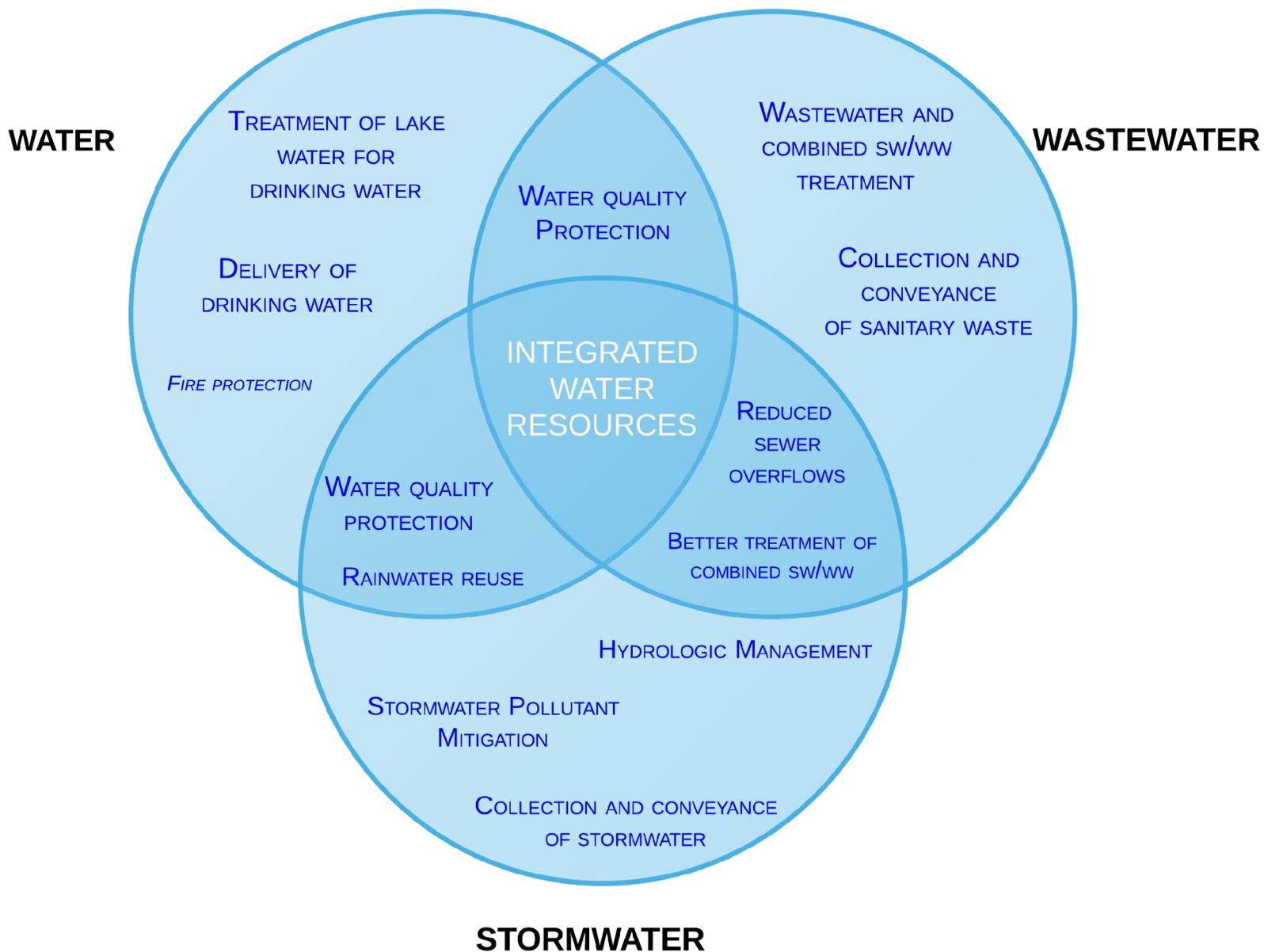
# DPW MISSION STATEMENT

- We steward Burlington's infrastructure and environment by delivering efficient, effective and equitable public services.



PRESENTED BY THE NORTHEAST OHIO REGIONAL SEWER DISTRICT

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# Water Resources

*Providing clean water and fire protection services through:*

- Water Supply
  - Treatment of water from Lake Champlain for drinking water
  - Distribution of water to homes, businesses and fire hydrants
  - Maintenance of water distribution system including valves, water mains & services, fire hydrants, elevated storage tanks and reservoirs
- Wastewater (Sanitary)
  - Treatment of sewage from homes and business before discharge to the Winooski River and Lake Champlain
  - Treatment of combined stormwater/wastewater to maximum extent practicable before discharge
  - Maintenance of collection system, three treatment plants, 25 pump stations
- Stormwater Management
  - Collection of stormwater runoff in combined and separate storm sewers
  - Regulatory review of increases in impervious surface or earth disturbances to mitigate (Chapter 26)
  - Watershed Planning and Retrofit design to mitigate stormwater runoff volumes and treat pollutants before discharge to waterways

# Water Resources, by the Numbers

- 1 water plant
- 110 miles of water mains
- 3 Wastewater Treatment Plants
- 49 miles of sanitary sewer
- 45 miles of combined sanitary / storm sewer
- 37 miles of storm sewer
- 25 pump stations
- 102 storm water outfalls
- 2,000+ catch basins
- 900 fire hydrants
- 2 post-closure landfills
- 1 methane powered generating station

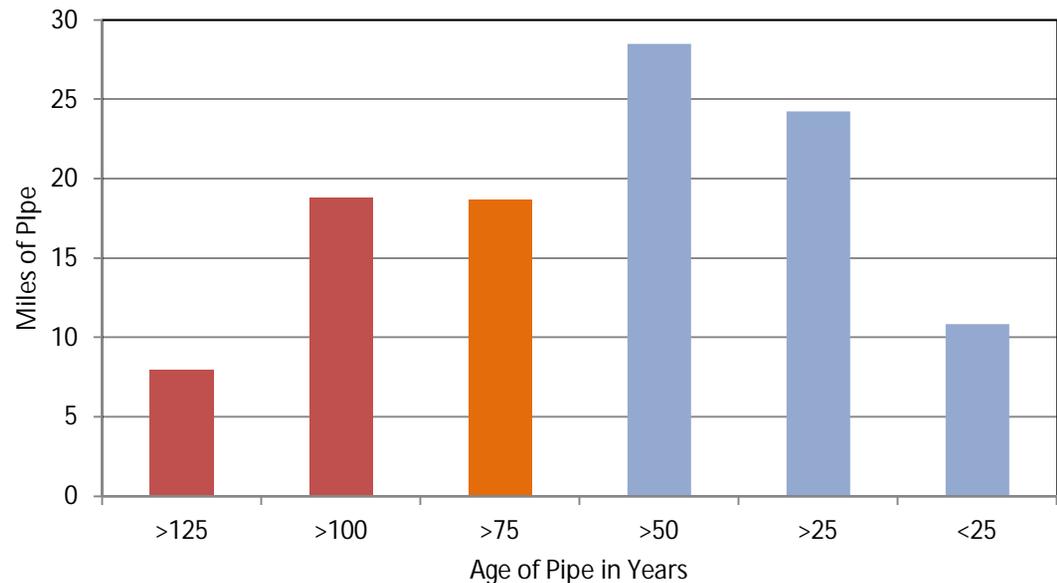
# FY 17 Water Resources Budget Goals/Drivers

- Increase capital funding to address the infrastructure deficit and begin addressing new infrastructure needs (Lake Champlain clean up plan)
  - Specifically, increase the efficiency and sustainability of our overall City Capital investments (i.e. paving program) through sufficient capital funding of subsurface utility renewal and stormwater management prior to paving
- Improve our ability to take care of and make decisions about replacement of our aging infrastructure through formal asset management

# Infrastructure deficit in water system

- Useful life of metal water pipes is 75-100 years depending on installation and soil conditions
- In total 42% of our water pipes are older than 75 years, with 25% over 100 years old
- To get back on an average 75-100 year replacement schedule (~ 88 years as target), need to spend ~\$2.3 M annually in next 25 years
- FY16 proposed distribution capital = \$838K
- FY 17 proposed distribution capital is \$880K; \$1.262 M with proposed borrowing

Water Main Length vs Age



Future revisions of our Water Capital Plan (FY17) will focus on a more detailed plan and annual cost estimate for pipe replacement taking into account other factors besides age.

# What can happen if you don't integrate subsurface infrastructure replacement with other capital programs...

## Breaks



## Road Patches



## Streets with Water Main Breaks after Paving (since 2009)

- Howard
- Pine
- Scarff
- S. Champlain
- Industrial
- S. Prospect
- St. Louis
- St. Paul
- Henry
- Brookes
- Hayward
- College

Patches grow up to be potholes!

Water pipes typically break due to a combination of corrosion, soil movement and pressure fluctuations. Additionally, vibrations due to paving machinery can impact brittle pipes.

# Water Quality and Quantity Issues



Normally forming tuberculation (internal corrosion i.e. rust) which forms in all metal water pipes everywhere leads to:



Reduction in pipe capacity which can cause water pressure issues and ultimately impact fire fighting ability



Discolored water at the tap and in appliances when rust particles break off when there is a pressure change

Our hydrant flushing program and our addition of anti-corrosion agents to our water slow this process down but many of our pipes are heavily tuberculated



While this rusty water is not a health risk, no one wants to discolored drink water, clog their aerators and filters or to risk staining their laundry



# Water Capital Needs

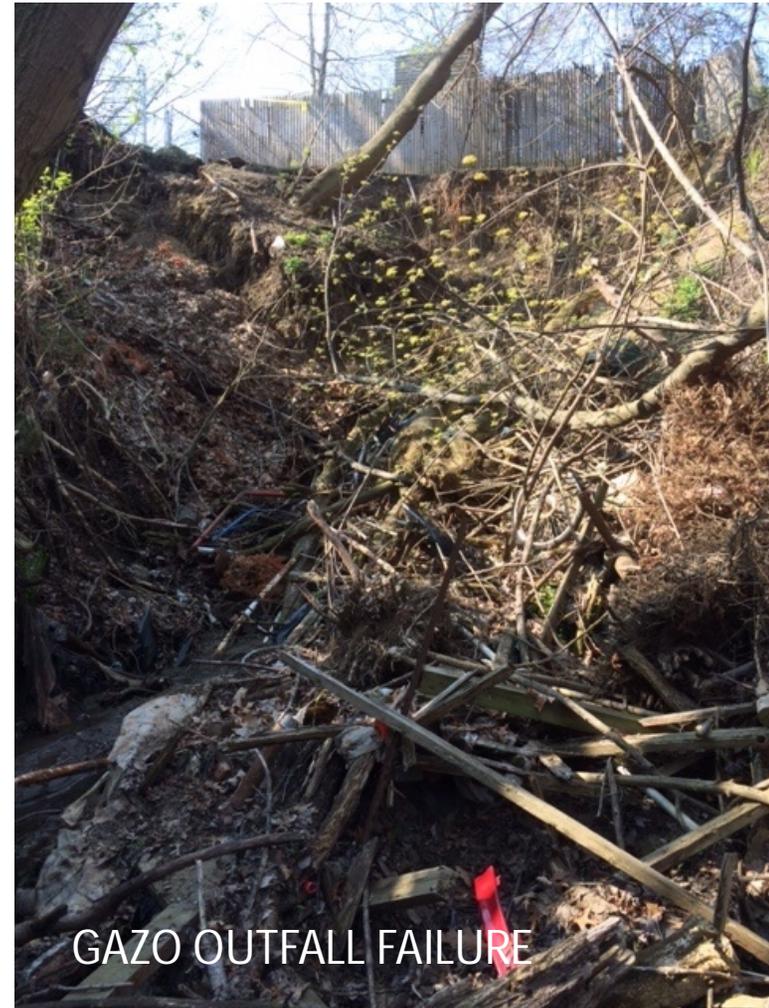
- Increase base capital funding to \$880K
- Borrow \$382K for total base capital investment of \$1.262 M (cost of highest priority project – Pine Street from Lakeside to Main and water services)
- Maintain capital investment level at Water Treatment Plant (\$580K)
- Consider future additional borrowing for FY17 to keep up fully with paving program and any other new City capital investments

# Sanitary and Storm Sewer Needs



- ◆ Capital \$ planned specifically for minimum anticipated needs for renewal (lining) of sanitary (\$150K) and stormwater (\$100k) pipes in advance of paving
- ◆ SRF funded Pipe Assessment project in FY 17 will develop a more detailed plan for the longer term investment needed.

# Storm Outfall Needs



💧 Gazo outfall repair (\$320K) in FY17 through \$200k capital and \$120K use of reserve

# Phosphorus Reduction from Roadway Stormwater Runoff

- ◆ The Lake Champlain clean up plan will require us to reduce phosphorus runoff from our impervious surface by 10%+
- ◆ \$200K programmed for FY17 and future for base capital investment to implement stormwater treatment in advance of or integrated with other FY17 City capital projects (paving – e.g. Grant Street and King Street)

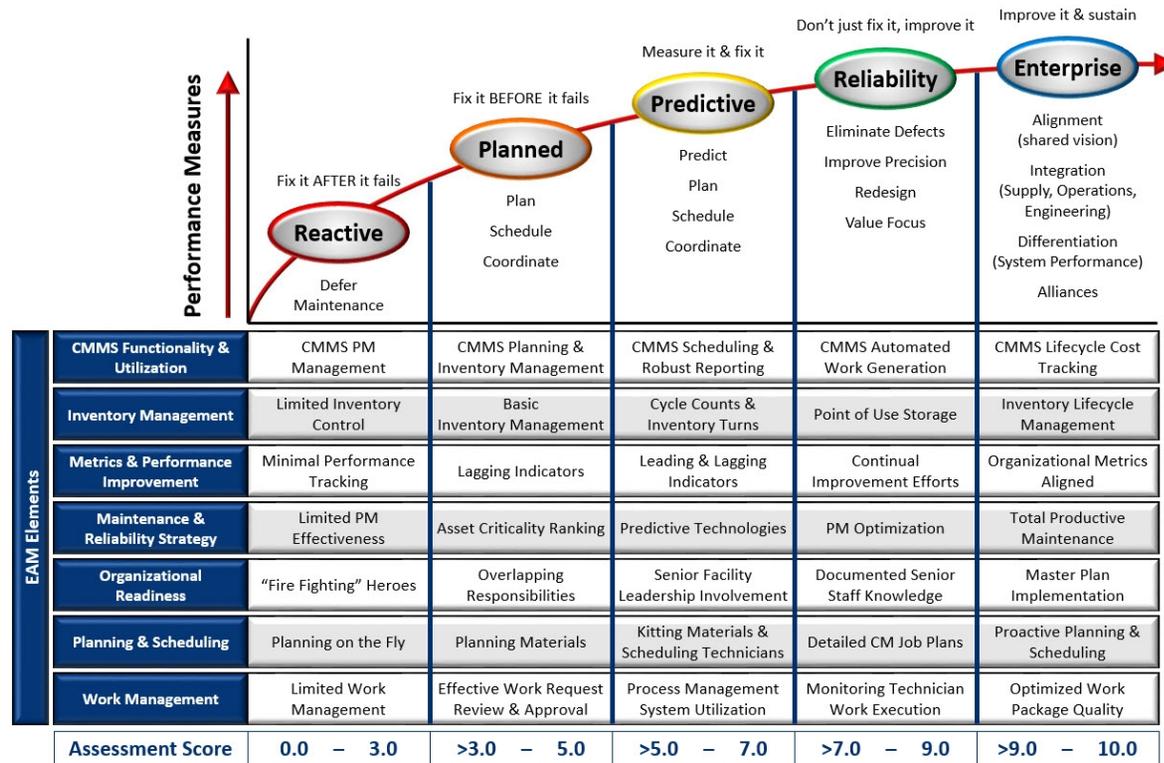


# Wastewater Plant and Equipment Needs

- ◆ Building envelope and draft 10 year capital plan for Wastewater Treatment Plan identify continued FY17 need of \$555K (\$745k and \$1.15M in FY18 and FY19)
- ◆ Vactor Replacement (\$300k) partially funded through cash reserve (\$172k)



# Asset Management Planning



- 💧 \$65K for Asset Management Planning for each funds' horizontal assets
  - 💧 includes development of specifications and assistance with selection of Computerized Maintenance Management Systems (CMMS)
- 💧 Improve maintenance planning /scheduling and capital planning through the association of work orders with a physical asset, tracking of condition assessments and evaluating criticality of a particular asset
- 💧 Development of levels of service (metrics) against which we can measure our progress

# FY 17 Water Resources Enterprise Budgets

Stormwater			
	FY'16 Budget	FY'17 Budget	Change from FY16
Revenues	\$1,264,713	\$1,595,751	\$331,038
Expenses	\$1,256,273	\$1,844,638	\$588,365
Net to Reserve	\$16,940	(\$248,887)	
Wastewater			
	FY'16 Budget	FY'17 Budget	Change from FY16
Revenues	\$8,035,048	\$7,889,750	(\$145,298)
Expenses	\$7,737,637	\$8,062,168	\$324,531
Net to Reserve	\$297,411	(\$172,418)	
Water			
	FY'16 Budget	FY'17 Budget	Change from FY 16
Revenues	\$6,545,746	\$6,509,265	(\$36,481)
<i>Borrowing</i>	\$0	\$381,838	\$381,838
Expenses	\$6,479,743	\$7,027,297	\$547,554
Net to Reserve	\$66,003	(\$136,194)	

# Proposed FY 17 Rates

Utility	FY 2016			FY 2017					
	Existing FY16 Rate	FY 16 Monthly Cost for Average Home Owner	FY16 Annual Cost for the Average Home Owner	Proposed FY17 Rate	Monthly Increase for Home Owner	Monthly Cost for the Average Home Owner	Annual Increase for Home Owner	Annual Cost for the Average Home Owner	% Increase
Stormwater	\$5.21 per month for single family home	\$5.21	\$62.52	\$6.60* per month for single family home	\$1.39	\$6.60	\$16.68	\$79.14	
Wastewater	\$5.55 per 100 cubic feet	\$37.10	\$445.17	\$5.55 per 100 cubic feet	\$0.00	\$37.10	\$0.00	\$445.17	
Water	\$4.00 per 100 cubic feet	\$26.74	\$320.84	\$4.05 per 100 cubic feet	\$0.33	\$27.07	\$4.01	\$324.85	
Total Utility		\$69.04	\$828.53		\$1.72	\$70.77	\$20.69	\$849.15	2.50%

- Includes planned use of \$248K, \$172K and \$136K of cash reserve in Stormwater, Wastewater and Water funds and \$381K in capital borrowing for Water



\* Single family home rate corresponds to a stormwater ISU rate = \$2.47/ISU (1 ISU = 1000 sq.ft)



# Projected FY 18-19 with currently proposed borrowing

Utility	FY 2018						FY 2019					
	Proposed FY18 Rate	Monthly Increase for Home Owner	Monthly Cost for the Average Home Owner	Annual Increase for Home Owner	Annual Cost for the Average Home Owner	% Increase	Proposed FY19 Rate	Monthly Increase for Home Owner	Monthly Cost for the Average Home Owner	Annual Increase for Home Owner	Annual Cost for the Average Home Owner	% Increase
Stormwater	\$7.21 per month for residential units	\$0.61	\$7.21	\$7.37	\$86.51		\$7.48 per month for residential units	\$0.27	\$7.48	\$3.20	\$89.71	
Wastewater	\$5.70 per 100 cubic feet	\$1.00	\$38.10	\$12.03	\$457.20		\$5.85 per 100 cubic feet	\$1.00	\$39.10	\$12.03	\$469.23	
Water	\$4.15 per 100 cubic feet	\$0.67	\$27.74	\$8.02	\$332.87		\$4.29 per 100 cubic feet	\$0.94	\$28.81	\$11.23	\$344.10	
Total Utility		\$2.28	\$73.05	\$27.42	\$876.58	3.23%		\$2.21	\$75.39	\$26.46	\$903.04	3.02%

- Includes FY 18 planned \$338K borrowing for Water; includes FY19 use of use of \$27K cash and \$292K borrowing in Water and \$370K borrowing in Wastewater
- Average customer will pay \$6.21/month more in FY 19 than in FY 16.

# What anticipated capital needs are not funded with the Proposed FY 17 Budget rate increases and borrowing?

Street section/Item	Cost	Total	Borrowing Needed
Cliff	\$ 216,000.00	\$ 297,000	Up to \$2.72 M in additional borrowing
Cherry	\$ 81,000.00		
South Cove*	\$ 595,000.00	\$ 1,136,100	
Dunder*	\$ 226,100.00		
Birchcliff*	\$ 315,000.00		
Curtis	\$ 446,760.00	\$ 446,760	
Flynn & Morse	\$ 844,000.00	\$ 844,000	

All other items require additional borrowing
*Enhanced Paving Program Plan
Pipe sections listed in order of priority
High Priority (FY18 Paving Plan)
High priority if other capital projects on those streets proceed
Deferrable (but deferral not recommend since on FY18 paving plan and in Capital plan)
Deferrable for (but on water capital for FY17/FY18 plan so recommended)

**Water line renewal on any FY 18 paving streets must be completed in FY 17**

- While the proposed rate plan does increase capital funding for water mains by 5% each year, there would likely be a similar list of unmet needs in FY 18 (~\$1.64 M) and FY19 (~\$1.32M) without additional borrowing.

# Impact of Potential Future Expanded Borrowing on FY 18 and FY 19 Rates

Utility	FY 2018						FY 2019						Total Annual Increase (FY16-FY19)
	Proposed FY18 Rate	Monthly Increase for Home Owner	Monthly Cost for the Average Home Owner	Annual Increase for Home Owner	Annual Cost for the Average Home Owner	% Increase	Proposed FY19 Rate	Monthly Increase for Home Owner	Monthly Cost for the Average Home Owner	Annual Increase for Home Owner	Annual Cost for the Average Home Owner	% Increase	
Stormwater	\$7.21 per month for single family home	\$0.61	\$7.21	\$7.37	\$86.51		\$7.48 per month for single family home	\$0.27	\$7.48	\$3.20	\$89.71		\$27.25
Wastewater	\$5.70 per 100 cubic feet	\$1.00	\$38.10	\$12.03	\$457.20		\$5.85 per 100 cubic feet	\$1.00	\$39.10	\$12.03	\$469.23		\$24.06
Water	\$4.24 per 100 cubic feet	\$1.27	\$28.34	\$15.24	\$340.09		\$4.49 per 100 cubic feet	\$1.67	\$30.01	\$20.05	\$360.14		\$39.30
Total Utility		\$2.88	\$73.65	\$34.64	\$883.80	4.08%		\$2.94	\$76.59	\$35.29	\$919.08	3.99%	\$90.62

- Additional borrowing in FY 17 (up to \$2.73 M) and FY18 (\$1.64M) would cost the homeowner an **additional \$1.34/month** (total of \$7.55/month) by FY19 compared to what they are paying in FY 16.

# Summary

- Request approval of FY 17 rates, with \$382K in Board of Finance and Council authorized borrowing for Water

Utility	FY 2017					
	Proposed FY17 Rate	Monthly Increase for Home Owner	Monthly Cost for the Average Home Owner	Annual Increase for Home Owner	Annual Cost for the Average Home Owner	% Increase
Stormwater	\$2.47 per ISU (\$6.60 per month for single family homes)	\$1.39	\$6.60	\$16.68	\$79.14	
Wastewater	\$5.55 per 100 cubic feet	\$0.00	\$37.10	\$0.00	\$445.17	
Water	\$4.05 per 100 cubic feet	\$0.33	\$27.07	\$4.01	\$324.85	
Total Utility		\$1.72	\$70.77	\$20.69	\$849.15	2.50%

- Anticipate our return to the Board of Finance and Council with a request for potential additional borrowing in FY 17

# Questions ?

